

ROUTINE ED HIV TESTING HAS NO EFFECT ON LENGTH OF STAY

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BACKGROUND AND OBJECTIVES

In September 2006 the Centers for Disease Control (CDC) recommended routine HIV testing for all patients in the emergency department (ED). One of the concerns is that adoption of these recommendations would lead to an increase in the length of stay (LOS) for ED patients. We therefore analyzed the effect of offering routine HIV screening in a cohort of ED patients.

MATERIALS AND METHODS

The analysis was performed in an urban, level 1 trauma center which offers routine opt-out HIV screening using dedicated HIV screeners. The screeners are undergraduate students who are in the ED from 8 AM until midnight while classes are in session. Approximately half of patients offered screening accepted the test. We analyzed the LOS of those patients who were offered HIV screening between January 2007 and June 2007, and compared them with a cohort of patients who were not offered testing. Admitted patients were excluded from analysis. The study was approved by the IRB.

RESULTS

Table 1. Demographic and medical characteristics of emergency room patients by offer of HIV test, January to June 2007 (n=23,178).

Variable	Total N (%)	Not offered HIV test %	Offered HIV test %	X2 test p-value
All	23178 (100)	89.9	10.1	--
GENDER				
Male	10913 (47.1)	47.4	44.4	0.007
Female	12263 (52.9)	52.6	55.6	
Race				
White	8324 (35.9)	35.7	38.1	0.11
Black	11662 (50.4)	50.6	48.0	
Hispanic	1065 (4.6)	4.6	5.1	
Asian	336 (1.5)	1.5	1.4	
Other	1777 (7.7)	7.7	7.5	
Age				
≤25 years old	5493 (23.7)	23.1	29.5	<0.001
26-37 years old	6336 (27.3)	26.8	32.0	
38-50 years old	5806 (25.0)	25.3	22.9	
50+ years old	5543 (23.9)	24.8	15.7	
Insurance status*				
Private	14932 (64.6)	63.6	73.2	<0.001
Public	5443 (23.5)	24.3	16.8	
None	2740 (11.9)	12.1	10.0	
ESI				
Level 1 (most severe)	5 (0.02)	0.02	0.0	<0.001
Level 2	1753 (7.6)	8.0	4.1	
Level 3	8968 (38.7)	39.4	32.5	
Level 4	10190 (44.0)	43.0	52.8	
Level 5 (least severe)	2257 (9.7)	9.6	10.6	

* Missing insurance status n=9

RESULTS, continued

Table 2. Mean length of stay (LOS) in minutes by demographic and patient characteristics for patients at an urban emergency room offered HIV testing versus those who were not offered testing, January to June 2007.

Variable	Not offered HIV test Mean LOS (SD)	Offered HIV test Mean LOS (SD)	F test p-value
All	271.3 (171.7)	254.5 (147.0)	<0.001
Gender			
Male	259.6 (160.6)	241.7 (142.4)	<0.001
Female	281.0 (168.8)	264.7 (149.8)	<0.001
White	252.2 (149.9)	251.4 (138.3)	0.87
Black	285.9 (176.1)	259.1 (155.3)	<0.001
Hispanic	274.4 (177.0)	262.9 (162.1)	0.50
Asian	252.8 (159.3)	232.7 (100.0)	0.48
Other	259.7 (143.2)	239.8 (130.5)	0.08
≤25 years old	247.2 (144.7)	245.7 (136.7)	0.81
26-37 years old	261.6 (160.9)	257.5 (154.5)	0.51
38-50 years old	279.6 (195.7)	253.4 (146.7)	0.003
50+ years old	295.7 (176.2)	266.3 (149.9)	0.002
Insurance status*			
Private	258.5 (154.3)	252.2 (138.0)	0.10
Public	304.9 (184.1)	269.2 (170.1)	<0.001
None	267.4 (167.8)	247.1 (166.5)	0.08
ESI			
Level 1 (most severe)	---	405 (251.9)	---
Level 2	330.3 (167.8)	331.5 (144.7)	0.95
Level 3	337.5 (189.4)	340.9 (168.3)	0.63
Level 4	221.5 (132.8)	213.0 (109.8)	0.03
Level 5 (least severe)	172.9 (123.8)	166.3 (87.0)	0.42
Month seen			
January	278.8 (170.6)	235.6 (137.3)	<0.001
February	270.2 (191.5)	251.0 (143.7)	0.02
March	284.6 (171.2)	245.5 (153.2)	<0.001
April	276.9 (163.9)	265.7 (143.6)	0.09
May	274.5 (168.9)	271.1 (148.7)	0.79
June	246.4 (164.8)	250.1 (163.3)	0.81
Triage time (time of day)			
1 (Day)	236.9 (148.9)	254.3 (154.3)	<0.001
2 (Evening)	304.8 (193.6)	250.4 (128.2)	<0.001
3 (Early AM)	286.0 (159.0)	375.0 (224.5)	0.002

* Missing insurance status n=9

Table 3. Unadjusted and adjusted length of stay in minutes by different characteristics of patients attending an urban emergency room, January to June 2007.

	Unadjusted LOS Coefficient (95% CI)	Adjusted* LOS Coefficient (95% CI)
Offered HIV test (vs. not offered)	-16.8 (-24.1, -9.6)	6.1 (-0.3, 12.5)
Female (vs. male)	21.3 (17.1, 25.5)	13.1 (9.2, 17.0)‡‡
Race		
White	Ref	Ref
Black	31.3 (26.7, 35.9)	18.3 (14.0, 22.6)‡‡
Hispanic	21.0 (10.6, 31.4)	21.8 (12.3, 31.2)‡‡
Asian	-1.3 (-19.0, 16.5)	-2.8 (-18.9, 13.2)
Other	5.7 (-2.7, 14.0)	1.9 (-5.6, 9.5)
Age		
≤25 years old	Ref	Ref
26-37 years old	14.2 (8.1, 20.2)	8.2 (2.9, 13.6)‡
38-50 years old	30.2 (24.0, 36.4)	18.1 (12.5, 23.7)‡‡
50+ years old	46.8 (40.5, 53.0)	31.0 (25.4, 36.6)‡‡
ESI Score		
Level 1 (most severe)**	-----	-----
Level 2	Ref	Ref
Level 3	-67.2 (-204.8, 70.3)	8.6 (1.0, 16.1) †
Level 4	-184.5 (-322.0, -47.0)	-104.8 (-112.3, -97.3)‡‡
Level 5 (least severe)	-232.8 (-370.5, -95.2)	-148.3 (-157.5, -139.1)‡‡

*Adjusted for all variables in table, insurance status, month seen in ED, and triage time (time of day).

**ESI 1 (most severe) was dropped due to small cell size (n=5)

† <0.05

‡ <0.01

‡‡ <0.001

CONCLUSIONS

This is the first report of the effect of routine ED HIV testing on ED LOS, and we conclude that HIV screening using an additional staff model has no effect on the overall length of stay. However, these conclusions apply only to our staffing model and may not apply to other staffing models.